

### REMARKS

The applicant respectfully requests reconsideration in view of the amendment and the following remarks. The applicant has corrected an obvious typographical error with respect to claims 28 and 29.

The Examiner has rejected claims 1-4, 6, 11-14, 16-21, 23-29 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Wool et al. (US 6,121,398) ("Wool"). The applicant respectfully traverses this rejection.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. MPEP 2131, citing *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Likewise, to establish *prima facie* obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art. See MPEP § 2143.03 (citing *In re Royka*, 490 F.2d 98 (CCPA 1974)). The applicant has two independent claims (claims 1 and 26) and each claim requires an amount of at least 10% by weight of feathers being in the material.

Wool does not recognize the unexpected results using at least 10% by weight feathers in the material. The Examiner asserts that this feature is inherent in the teaching of Wool. It is pointed out that Wool also would include amounts less than half the minimum of feathers in the material (5%). There are no examples in Wool using any feathers, let alone that use at least 10% by weight feathers. The applicant has now discovered unexpected results using at least 10% of feathers compared to 5% of feathers in the material.

The Examiner stated at the bottom of page 5 of the office action,

Regarding applicants argument on the "unexpected results" in tan delta when at least 10% of feather is incorporated into the material, applicants

must recognize that unexpected results must be obtained by comparing the low dielectric constant material of the claimed invention with the low dielectric constant material of Wool et al. in order to be valid.  
(emphasis added)

It is recognized that the applicant only had to compare a low dielectric containing 10% by weight of feathers versus a low dielectric material containing no feathers. The applicant believes that they have made a proper side by side comparison. The applicant has done a side by side comparison with the only difference being 0% according to Wool versus at least 10% by weight of feathers. In addition, the applicant has done a comparison, although not required with a low dielectric material using 5% by weight feathers to 10% by weight feathers.

From the data shown in Figures 3, 5 and 6, it is clear that the results using at least 10% by weight feathers compared to 5% or 0% are significantly better. The results of 5% chicken feathers in the material are very similar to results having no feathers (0%) in the material (see Figures 3 and 5). However, when you add 10% by weight the results in the material are surprising unexpectedly superior.

For example, the tan delta at 10% is about half the change at 5%, which is about twice the improvement with no chicken feathers added 0% (see figure 6). This is discussed in more detail in the published application in paragraph no. 30 which states,

Tan  $\delta$  of AESO composites versus temperature is shown in FIG. 6. The maximum value of the loss factors (Tan  $\delta$ ) decreases with increased feather fiber content indicating the increasing trend of composite rigidity. The lowering of the damping energy suggests the restraint effect of the fiber on the matrix mobility, and this restriction is enhanced with an increasing fiber content. Also, the damping peak becomes broader with increasing fiber content, indicating many kinds of relaxation modes of polymer chains due to the fiber. A peak of Tan  $\delta$  is

assigned to the glass transition temperature of AESO composites.  
(emphasis added)

Figure 5 is discussed in more detail in the published application in paragraph no. 29  
which states,

FIG. 5 illustrates the storage modulus of room temperature cured AESO composites as a function of temperature. A change in the modulus indicates a change in rigidity and, hence, strength of the composite. The storage modulus of AESO composites was improved **significantly with an adding chicken feather fiber over whole range of the testing temperature**. The incorporation of chicken feather fiber gives rise to a considerable **increase of stiffness** of the soy oil based composites. **The slight decrease at 5 wt % composite is due to voids remained in the composite.** (emphasis added)

Wool is silent on the amount of feathers in the material. Wool is also silent on insulator materials as is claimed in claims 17 and 18.

Again, it is recognized that Wool would cover any amount of feathers, however, Wool did not recognize the advantage of having at least 10% by weight feathers in the material. This is a selection invention over Wool. For the above reasons, this rejection should be withdrawn.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 03-2775, under Order No. 00131-00339-US from which the undersigned is authorized to draw.

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Respectfully submitted,

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